Abstract

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Title of diploma thesis: Evaluation of activity of potentional antibacterial substances through the use of microdilution broth method I

Background

Development of new antibacterial agents is still and will be always an important area of pharmaceutical industry. The need to discover new drugs is growing resistance of pathogenic bacterial strains. Aim of the work was to test new potencial antibacterial active substances on antimicrobial activity.

Methods

As part of this thesis was by using microdilution broth method tested for antibacterial activity against eight chosen bacterial strains 106 chemicals newly synthesized by the Departments of the Faculty of Pharmacy in Hradec Králové. The described method is used as a screening for pre–determining of the effectiveness of antimicrobial agents.

Results

Substances were divided into ten groups according to chemical structure. The most effective was reflected group of salicylthioamid derivates. These substances belong to this group inhibited bacterial growth of all tested strains by very low concentrations already.

For each tested bacterial strain were the most effective substance evaluated.

Conclusion

On the basis of our results was the rate of resistance of bacterial strains determined. In total, the most sensitive strain of all was the strain *Staphylococcus aureus*. On the contrary, the greatest resistance to the tested compounds proved the strain *Klebsiella pneumoniae* ESBL positive.

In the text are compared the chemical structures of tested substances on the basis of which are possible causes of the effectiveness or ineffectiveness of each group discussed.